CURRICULUM VITAE
University of Pittsburgh
School of Medicine

BIOGRAPHICAL

Name:	Ethan A. Rossi	**Citizenship:**	USA
Birthplace:	Canandaigua, NY	**E-Mail:**	rossiea@pitt.edu
Address:	1622 Locust St., Room 8.396 Pittsburgh, PA 15219	**Phone:**	412-624-5024

EDUCATION and TRAINING

UNDERGRADUATE:

1997-2001	University of Rochester, Rochester, NY	BA, 2001	Brain & Cognitive Sciences

GRADUATE:

2004-2009	University of California, Berkeley, CA	PhD, 2009	Vision Science

POSTGRADUATE:

2010	University of California, Berkeley, CA	Postdoc	Levi & Roorda Labs
2010-2012	University of Rochester, Rochester, NY	Postdoc	David Williams Lab

---

APPOINTMENTS and POSITIONS

ACADEMIC:

2012–2016	University of Rochester, Center for Visual Science Advanced Retinal Imaging Alliance	Research Associate
2016–present	University of Pittsburgh, School of Medicine Department of Ophthalmology	Assistant Professor
2016–present	University of Pittsburgh, School of Medicine Advanced Ophthalmic Imaging Laboratory	Director
2016–present	University of Pittsburgh, Swanson School of Engineering Department of Bioengineering	Assistant Professor
2017–present	McGowan Institute for Regenerative Medicine University of Pittsburgh	Member Faculty

NON-ACADEMIC:

2001-2004	Smith-Kettlewell Eye Research Institute San Francisco, CA	Research Assistant Miller & Scott Labs

MEMBERSHIP in PROFESSIONAL and SCIENTIFIC SOCIETIES

Association for Researchers in Vision and Ophthalmology	***2004–present***
Optical Society of America	***2004–present***
National Science Foundation Center for Adaptive Optics	***2004–2010***
University of California Center for Adaptive Optics	***2017–2020***
European Association for Vision and Eye Research	***2018-2020***
International Society for Eye Research	***2022–present***

HONORS

Xerox Scholarship ***1997-2001***
Xerox Corporation, University of Rochester, Rochester, NY

Ruth L. Kirschstein National Research Service Award (Institutional) ***2004–2006***
UC Berkeley Vision Science Training Grant (NEI)

Kaiser Fellowship ***2006***
Kaiser Fellowship Fund

Outstanding Graduate Student Instructor Award ***2007***
University of California, Berkeley, CA

Young Investigator Award ***2008***
Optical Society of America

Ruth L. Kirschstein National Research Service Award (Institutional) ***2010–2011***
Center for Visual Science Training Grant, National Eye Institute (NEI)

Fight for Sight Post-Doctoral Award ***2011–2012***
Fight for Sight, New York, NY, Grant Number: FFS-PD-11-020

Ruth L. Kirschstein National Research Service Award (Individual) ***2011–2012***
National Eye Institute (NEI), Grant Number: 1F32EY021669-01A1

BrightFocus National Glaucoma Research Award ***2017-2019***
BrightFocus Foundation, Clarksburg, MD, Grant Number: G2017082

PUBLICATIONS

1. ORIGINAL PEER REVIEWED ARTICLES

1. Miller JM, Demer JL, Poukens V, Pavlovski DS, Nguyen HN, **Rossi EA**. Extraocular connective tissue architecture. Journal of Vision. 2003;3(3):240–51. DOI: 10.1167/3.3.5. PMID: 12723968.
2. Miller JM, **Rossi EA**, Wiesmair M, Alexander DE, Gallo O. Stability of gold bead tissue markers. Journal of Vision. 2006;6(5):616–24. DOI: 10.1167/6.5.6. PMID: 16881792.
3. **Rossi EA**, Weiser P, Tarrant J, Roorda A. Visual performance in emmetropia and low myopia after correction of high-order aberrations. Journal of Vision. 2007;7(8):14,1–14. DOI: 10.1167/7.8.14. PMID: 17685821.
4. **Rossi EA**, Roorda A. The relationship between visual resolution and cone spacing in the human fovea. Nature Neuroscience. 2010 Feb;13(2):156–7. DOI: 10.1038/nn.2465. PMID: 20023654.
5. Carroll J*, **Rossi EA***, Porter J, Neitz J, Roorda A, Williams DR, Neitz M. Deletion of the X-linked opsin gene array locus control region (LCR) results in disruption of the cone mosaic. Vision Research. 2010 Sep 15;50(19):1989–99. DOI: 10.1016/j.visres.2010.07.009. PMID: 20638402. *these authors contributed equally to this work

1. ORIGINAL PEER REVIEWED ARTICLES (cont.)

6. **Rossi EA**, Roorda A. Is visual resolution after adaptive optics correction susceptible to perceptual learning? Journal of Vision. 2010;10(12):11,1–14. DOI: 10.1167/10.12.11. PMID: 21047743.
7. **Rossi EA**, Achtman RL, Guidon A, Williams DR, Roorda A, Bavelier D, Carroll J. Visual Function and Cortical Organization in Carriers of Blue Cone Monochromacy. PLoS ONE. 2013 Feb 28;8(2):e57956. DOI: 10.1371/journal.pone.0057956. PMID: 23469117.
8. **Rossi EA**, Rangel-Fonseca P, Parkins K, Fischer W, Latchney LR, Folwell MA, Williams DR, Dubra A, Chung MM. In vivo imaging of retinal pigment epithelium cells in age related macular degeneration. Biomedical Optics Express. 2013 Nov 1;4(11):2527–39. DOI: 10.1364/BOE.4.002527. PMID: 24298413.
9. Rangel-Fonseca P, Gómez-Vieyra A, Malacara-Hernández D, Wilson MC, Williams DR, **Rossi EA**. Automated segmentation of retinal pigment epithelium cells in fluorescence adaptive optics images. Journal of the Optical Society of America A. 2013 Nov 21;30(12):2595. DOI: 10.1364/JOSAA.30.002595. PMID: 24323021.
10. Masella BD, Williams DR, Fischer WS, **Rossi EA**, Hunter JJ. Long-term reduction in infrared autofluorescence caused by infrared light below the maximum permissible exposure. Invest Ophthalmology & Visual Science. 2014 Jun;55(6):3929–38. DOI: 10.1167/iovs.13-12562. PMID: 24845640.
11. Yang Q, Zhang J, Nozato K, Saito K, Williams DR, Roorda A, **Rossi EA**. Closed-loop optical stabilization and digital image registration in adaptive optics scanning light ophthalmoscopy. Biomedical Optics Express. 2014 Sep 1;5(9):3174. DOI: 10.1364/BOE.5.003174. PMID: 25401030.
12. Yang Q, Yin L, Nozato K, Zhang J, Saito K, Merigan WH, Williams DR, **Rossi EA**. Calibration-free sinusoidal rectification and uniform retinal irradiance in scanning light ophthalmoscopy. Optics Letters. 2015 Jan 1;40(1):85. DOI: 10.1364/OL.40.000085. PMID: 25531615.
13. Zhang J, Yang Q, Saito K, Nozato K, Roorda A, Williams DR, **Rossi EA**. An adaptive optics imaging system designed for clinical use. Biomedical Optics Express. 2015 Jun 1;6(6):2120. DOI: 10.1364/BOE.6.002120. PMID: 26114033.
14. Song H, **Rossi EA**, Latchney L, Bessette A, Stone E, Hunter JJ, Williams DR, Chung M. Cone and rod loss in Stargardt disease revealed by adaptive optics scanning light ophthalmoscopy. JAMA Ophthalmology. 2015 Oct;133(10):1198–203. DOI: 10.1001/jamaophthalmol.2015.2443. PMID: 26247787.
15. **Rossi EA**, Granger CE, Sharma R, Yang Q, Saito K, Schwarz C, Walters S, Nozato K, Zhang J, Kawakami T, Fischer W, Latchney LR, Hunter JJ, Chung MM, Williams DR. Imaging individual neurons in the retinal ganglion cell layer of the living eye. Proceedings of the National Academy of Sciences of the United States of America. 2017; 114(3):586-591; DOI: 10.1073/pnas.1613445114. PMID: 28049835.
16. Williams ZW, **Rossi EA**, DiLoreto DA. In vivo adaptive optics ophthalmoscopy correlated with histopathology in cancer associated retinopathy. Ophthalmology Retina. 2018;2(2):143-151, DOI: 10.1016/j.oret.2017.06.008. PMID: 31047341.
17. Song H, **Rossi EA**, Stone E, Latchney LR, Williams DR, Dubra A, Chung MM. Phenotypic diversity in autosomal-dominant cone-rod dystrophy elucidated by adaptive optics retinal imaging. British Journal of Ophthalmology. 2018;102(1):136-141. DOI: 10.1136/bjophthalmol-2017-310498. PMID: 29074494.
18. Granger CE, Yang Q, Song H, Saito K, Nozato K, Latchney LR, Leonard BT, Chung MM, Williams DR, & **Rossi EA**. Human retinal pigment epithelium: in vivo cell morphometry, multi-spectral autofluorescence, and relationship to cone mosaic. Investigative Ophthalmology and Visual Science. Dec 2018; 59:5705-5716. DOI: 10.1167/iovs.18-24677. PMID: 30513531.

1. ORIGINAL PEER REVIEWED ARTICLES (cont.)

19. Grieve K, Gofas-Salas E, Ferguson RD, Sahel JA, Paques M, & **Rossi EA.** *In vivo* near-infrared autofluorescence imaging of retinal pigment epithelial cells with 757 nm excitation. Biomedical Optics Express. 2018; 9(12):5946-5961. DOI: 10.1364/BOE.9.005946. PMID: 31065405.
20. Walters S, Schwarz C, Sharma R, **Rossi EA**, Fischer WS, DiLoreto DA, Strazzeri J, Nelidova D, Roska B, Hunter JJ, Williams DR, & Merigan WH. Cellular-scale evaluation of induced photoreceptor degeneration in the living primate eye. Biomedical Optics Express. 2018; 10(1):66-82. DOI: 10.1364/boe.10.000066. PMID: 30775083.
21. Song H, **Rossi EA**, Yang Q, Granger CE, Latchney LR, Chung MM. High-Resolution Adaptive Optics in Vivo Autofluorescence Imaging in Stargardt Disease. JAMA Ophthalmology. 2019; 137(3):603-609. DOI: 10.1001/jamaophthalmol.2019.0299. PMID: 30896765.
22. Vienola K, Zhang M, Snyder VC, Sahel JA, Dansingani KK, & **Rossi EA.** Microstructure of the retinal pigment epithelium near-infrared autofluorescence in healthy young eyes and in patients with AMD. Scientific Reports. 2020; 10:9561. DOI:10.1038/s41598-020-66581-x. PMID: 32533046.
23. Suthaharan S, **Rossi EA**, Snyder V, Chhablani J, Lejoyeux R, Sahel JA, & Dansingani K. Laplacian feature detection and feature alignment for multimodal ophthalmic image registration using phase correlation and Hessian affine feature space. Signal Processing. 2020; DOI: 10.1016/j.sigpro.2020.107733. PMID: 32943806.
24. Song H, **Rossi EA**, & Williams DR. Reduced foveal cone density in early idiopathic macular telangiectasia. BMJ Open Ophthalmology. 2020; DOI: 10.1136/bmjophth-2020-000603. PMID: 33490602.
25. Mecê P, Gofas-Salas E, Rui Y, Sahel JA, & **Rossi EA**. Spatial frequency-based image reconstruction to improve image contrast in multi-offset adaptive optics ophthalmoscopy. Optics Letters; 46(5):1085-1088. 2021; DOI: 10.1364/OL.417903. PMID: 33649663.
26. Zhang M, Gofas-Salas E, Leonard BT, Rui Y, Snyder VC, Reecher HM, Mecê P, and **Rossi EA**. Strip-based digital image registration for distortion minimization and robust eye motion measurement from scanned ophthalmic imaging systems. Biomedical Optics Express. 2021; 12: 2353-2372. DOI: 10.1364/BOE.418070. PMID: 33996234.
27. Vienola KV, Zhang M, Snyder VC, Dansingani KK, Sahel JA, & **Rossi EA**. Near infrared autofluorescence imaging of retinal pigmented epithelial cells using 663 nm excitation. Eye. 2021. DOI: 10.1038/s41433-021-01754-0. PMID: 34462582.
28. Vienola KV, Dansingani KK, Eller AW, Martel JN, Snyder VC & **Rossi EA**. Multimodal imaging of torpedo maculopathy with fluorescence adaptive optics imaging of individual retinal pigmented epithelial cells. Frontiers in Medicine. 8:769308. DOI: 10.3389/fmed.2021.769308. PMID: 34957148.
29. **Rossi EA**, Norberg N, Eandi CM, Chaumette C, Kapoor S, Le L, Snyder VC, Martel J, Gautier J, Gocho K, Dansingani KK, Chhablani J, Arleo A, Mrejen S, Sahel JA, Grieve K, & Paques M. A new method for visualizing drusen and their progression in flood-illumination adaptive optics ophthalmoscopy. Translational Vision Science & Technology. 2021; 10(14):19. DOI:10.1167/tvst.10.14.19. PMID: 34928325.
30. Leonard B, Kontos A, Marchetti GF, Zhang M, Eagle SR, Reecher HM, Bensinger E, Snyder V, Holland CL, Sheehy CK, & **Rossi EA**. Fixational eye movements following concussion. Journal of Vision. 2021; 21(13):11,1–14. DOI: 10.1167/jov.21.13.11. PMID: 34940825.
31. Gofas-Salas E, Rui Y, Mece P, Zhang M, Snyder VC, Vienola KV, Lee D, Sahel JA, Grieve K & **Rossi EA**. Design of a radial multi-offset detection pattern for *in vivo* phase contrast imaging of the inner retina in humans. Biomedical Optics Express. 2022; 13(1): 117-132. DOI: 10.1364/BOE.441808. PMID: 35154858.

1. ORIGINAL PEER REVIEWED ARTICLES (cont.)

32. Paques M, Norberg N, Chaumette C, Sennlaub F, **Rossi E**, Borella Y, & Grieve K. Long Term Time-Lapse Imaging of Geographic Atrophy: A Pilot Study. Frontiers in Medicine. 2022; 22 June. DOI: 10.3389/fmed.2022.868163. PMID: 35814763.
33. Amarasekera S, Williams AM, Freund KB, **Rossi EA**, & Dansingani, KK. Multimodal imaging of multifocal choroiditis with adaptive optics ophthalmoscopy. Retinal Cases & Brief Reports. 2022; 16(6):747-753. DOI: 10.1097/ICB.0000000000001134. PMID: 36288621.
34. Vienola KV, Lejoyeaux R, Gofas-Salas E, Snyder VC, Zhang M, Dansingani KK, Sahel JA, Chhablani J, & **Rossi EA**. Autofluorescent hyperreflective foci on infrared autofluorescence adaptive optics ophthalmoscopy in central serous chorioretinopathy. Am J Ophthalmol Case Rep. 2022; Dec; 28: 101741. DOI: 10.1016/j.ajoc.2022.101741. PMID: 36345414.
35. Albrecht T, Mehmel B, **Rossi EA**, Trbovich A, Eagle S, Kontos AP. Temporal changes in fixational eye movements (FEMs) following concussion in adolescents and adults: Preliminary findings. J Neurotrauma. 2023 Aug 11. DOI: 10.1089/neu.2023.0080. PMID: 37565280.
36. Suthaharan S, Lee DMW, Zhang M & **Rossi EA.** Microsaccade segmentation using directional variance analysis and artificial neural networks. IEEE Computer Society. 2023; 1-6. DOI: 10.1109/IRI58017.2023.00008.
37. Satcho E, Snyder VC, Dansingani KK, Liasis A, Kedia N, Gofas-Salas E, Chhablani J, Martel JN, Sahel JA, Paques M, **Rossi EA**, & Errera MH. Adaptive optics and multimodal imaging for inflammatory vitreoretinal interface abnormalities. Retina. *In Press*, accepted 1/3/2024.
38. Vienola K, Holmes JA, Glasso Z, & **Rossi EA**. Head stabilization apparatus for high-resolution ophthalmic imaging. Applied Optics. 2024; 63(4): 940-944. DOI: 10.1364/AO.513801.
39. Rui Y, Lee DMW, Zhang M, Snyder VC, Gofas-Salas E, Mecê P, Raghuraman R, Yadav S, Tiruveedhula P, Sahel JA, Grieve K, Errera MH, & **Rossi EA**. Label-free in vivo imaging of inflammation at the level of single cells in the living human eye, Ophthalmology Science. 2024; Jan 20. DOI: 10.1016/j.xops.2024.100475.

2. OTHER PEER REVIEWED PUBLICATIONS (REVIEWS)

1. **Rossi EA**, Chung M, Dubra A, Hunter JJ, Merigan WH, Williams DR. Imaging retinal mosaics in the living eye. Eye (Lond). 2011 Mar;25(3):301-8. DOI: 10.1038/eye.2010.221. PMID: 21390064.
2. Lejoyeax R, Benilluche J, Ong J, Errera M-H, **Rossi EA**, Singh SR, Dansingani KK, da Silva S, Sinha D, Sahel JA, Freund KB, Sadda SR, Lutty GA, and Chhablani J. Choriocapillaris: Fundamentals and advancements. Progress in Retinal and Eye Research. 2022 Mar; 87:100997. DOI: 10.1016/j.preteyeres.2021.100997. PMID: 34293477.

3. OTHER NON-PEER REVIEWED PUBLICATIONS

1. **Rossi EA**, Li KY, Weiser P, Tarrant J, Roorda A. Factors influencing visual resolution in myopia after adaptive optics correction of high order aberrations. Proceedings of the 13th International Myopia Conference, Tübingen, Germany, Optometry and Vision Science, 88(3), 2011.
2. Gofas-Salas E, Rui Y, Mecê P, Zhang M, Snyder VC, Vienola KV, Lee D, Sahel J, **Rossi EA**, & Grieve K. Enhancing contrast of in-vivo human retinal ganglion cells with multi-offset adaptive optics scanning laser ophthalmoscope. European Conferences on Biomedical Optics 2021 (ECBO), OSA Technical Digest (Optical Society of America, 2021), paper ETh3A.8.

4. BOOKS, BOOK CHAPTERS and MONOGRAPHS

1. Putnam NM, Maness HL, **Rossi EA**, Hunter JJ. An inquiry-based vision science activity for graduate students and postdoctoral scientists. In: Hunter L & Metevier AJ (Eds.), Learning from Inquiry in Practice, Astronomical Society of the Pacific Conference Series, Volume 436. San Francisco, CA: ASP. 2010

4. BOOKS, BOOK CHAPTERS and MONOGRAPHS (cont.)

2. Ammons SM, Severson S, Armstrong JD, Crossfield I, Do T, Fitzgerald M, Harrington D, Hickenbotham A, Hunter J, Johnson J, Johnson L, Li K, Lu J, Maness H, Morzinski K, Norton A, Putnam N, Roorda A, **Rossi EA**, Yelda S. The adaptive optics summer school laboratory activities. In: Hunter L & Metevier AJ (Eds.), Learning from Inquiry in Practice, Astronomical Society of the Pacific Conference Series, Volume 436. San Francisco, CA: ASP. 2010

5. PUBLISHED ABSTRACTS (in Scientific Journals)

1. Miller JM, Demer JL, Poukens V, Pavlovski DS, Nguyen HN, **Rossi EA**. Extraocular Tissue Type Architecture. Invest Ophthalmol Vis Sci. 2002 Dec 1;43(13):1913–1913.
2. Miller JM, **Rossi EA**, Konishi S, Abramoff MD. Visualizing Ocular Tissue Movement with Little Gold Beads. Invest Ophthalmol Vis Sci. 2003 May 1;44(13):3123–3123.
3. Roorda A, **Rossi EA**, Zhang Y, Stevenson SB, Arathorn DW, Vogel CR, Parker A, Yang Q. Applications For Eye–Motion–Corrected Adaptive Optics Scanning Laser Ophthalmoscope Videos. Invest Ophthalmol Vis Sci. 2006 May 1;47(13):1808–1808.
4. **Rossi EA**, Roorda A. The Limits of High Contrast Photopic Visual Acuity with Adaptive Optics. Invest Ophthalmol Vis Sci. 2006 May 1;47(13):5402–5402.
5. **Rossi EA**, Weiser P, Tarrant J, Roorda A. Does correction of higher order aberrations improve visual performance in myopes? Journal of Vision. 2010 Mar 28;6(13):63–63.
6. Grieve KF, Tiruveedhula P, **Rossi EA**, Roorda A. Measuring Intrinsic Retinal Signals With the Adaptive Optics Scanning Laser Ophthalmoscope. Invest Ophthalmol Vis Sci. 2007 May 10;48(13):1954–1954.
7. **Rossi EA**, Grieve K, Roorda A. Visual Acuity and the Photoreceptor Mosaic. Invest Ophthalmol Vis Sci. 2007 May 10;48(13):3175–3175.
8. **Rossi EA**, Carroll J, Roorda A. The relationship between the cone photoreceptor mosaic and visual acuity in normal observers and blue cone monochromat carriers. Journal of Vision. 2010 Mar 28;8(17):20–20.
9. Song S, **Rossi EA**, Wickham C, Roorda A, Brillinger DR, Levi DM. Fixational eye movements for normal and strabismic amblyopic observers. Journal of Vision. 2010 Aug 6;10(7):456–456.
10. **Rossi EA**, Achtman RL, Guidon A, Williams DR, Roorda A, Bavelier D, Carroll J. Visual Function and Cortical Organization in Carriers of Blue Cone Monochromacy. Invest Ophthalmol Vis Sci. 2010 Apr 17;51(13):6297–6297.
11. Chung MM, **Rossi EA**, Song H, Dubra A, Gonzalez MO, Stone EM, Riley J, Williams DR. In vivo Adaptive Optics Imaging of the Cone Photoreceptor Mosaic in Autosomal Dominant Cone Rod Dystrophy (AD-CRD) in a Three-generation Family Carrying the I143NT Mutation in the Guanylate Cyclase Activator A1A (GUCA1A) Gene. Invest Ophthalmol Vis Sci. 2011 Apr 22;52(14):5002–5002.
12. **Rossi EA**, Williams DR, Dubra A, Song H, Folwell MA, Latchney LR, Chung MM. Photoreceptor and RPE Disruptions Observed Outside Clinically Visible Geographic Atrophy Lesions in the Living Eye with Fluorescence Adaptive Optics Scanning Laser Ophthalmoscopy (FAOSLO). Investigative Ophthalmology & Visual Science. 2012 Mar 26;53(6):E-Abstract 5599.
13. Song H, Pugliese A, **Rossi EA**, Latchney L, Stone E, Dubra A, Hunter J, Chung M. Adaptive Optics Scanning Laser Ophthalmoscopy in Stargardt Disease Reveals Decreased Cone and Rod Densities. Invest Ophthalmol Vis Sci. 2013 Jun 16;54(15):1743–1743.
14. Chung M, Song H, Latchney L, Folwell M, Fischer W, **Rossi EA**. Cellular Features of Retinal Pigment Epithelial Atrophy after Regression of Choroidal Neovascularization. Invest Ophthalmol Vis Sci. 2013 Jun 16;54(15):6284–6284.

5. PUBLISHED ABSTRACTS (in Scientific Journals) (cont.)

15. **Rossi EA**, Williams D, Dubra A, Latchney L, Folwell M, Fischer W, Song H, Chung M. Individual Retinal Pigment Epithelium Cells can be Imaged In Vivo in Age Related Macular Degeneration. Invest Ophthalmol Vis Sci. 2013 Jun 16;54(15):6282–6282.
16. Rangel-Fonseca P, Gomez-Vieyra A, Malacara-Hernandez D, Wilson M, Williams D**, Rossi EA**. Automated segmentation of retinal pigment epithelium cells in fluorescence adaptive optics images. Journal of Vision. 2013 Dec 27;13(15):P33–P33.
17. Hunter JJ, Masella BD, Fischer W, **Rossi EA**, Williams DR. Long-term reduction of infrared autofluorescence caused by infrared light below the maximum permissible exposure. Invest Ophthalmol Vis Sci. 2014 Apr 30;55(13):2172–2172.
18. Nozato K, Yang Q, Saito K, Zhang J, Williams DR, **Rossi EA**. Automated correction of sinusoidal distortion and drift in resonant scanning retinal imaging systems. Invest Ophthalmol Vis Sci. 2014 Apr 30;55(13):1599–1599.
19. Saito K, Nozato K, Suzuki K, Roorda A, Dubra A, Song H, Hunter JJ, Williams DR, **Rossi EA**. Rods and cones imaged with a commercial adaptive optics scanning light ophthalmoscope (AOSLO) prototype. Invest Ophthalmol Vis Sci. 2014 Apr 30;55(13):1594–1594.
20. Zhang J, Saito K, Yang Q, Nozato K, Suzuki K, Hunter JJ, Williams DR, **Rossi EA**. An integrated adaptive optics scanning light ophthalmoscope (AOSLO) and wide-field SLO (WF-SLO) for steerable high resolution retinal imaging. Invest Ophthalmol Vis Sci. 2014 Apr 30;55(13):5017.
21. Yang Q, Zhang J, Nozato K, Saito K, Suzuki K, Williams DR, **Rossi EA**. Real-time optical stabilization and digital registration for high-resolution retinal imaging. Invest Ophthalmol Vis Sci. 2014 Apr 30;55(13):4815–4815.
22. **Rossi EA**, Song H, Latchney L, Folwell MA, Fischer W, Chung MM. Adaptive Optics Imaging of AREDS2 Patients Reveals a Variety of Photoreceptor Layer Morphologies. ARVO Meeting Abstracts. 2014 Apr 30;55(5):5236.
23. Yang Q, Song H, Granger CE, Nozato K, Saito K, Zhang J, Latchney LR, Chung MM, Williams DR, **Rossi EA**. Safe real-time imaging of human retinal pigment epithelial cells in the living eye. Invest Ophthalmol Vis Sci. 2015 Jun 11;56(7):5971–5971. \
24. Nozato K, Yang Q, Saito K, Suzuki K, Zhang J, Latchney LR, Williams DR, **Rossi EA**. Compact adaptive optics scanning light ophthalmoscope (AOSLO) with real-time optical stabilization and digital registration. Invest Ophthalmol Vis Sci. 2015 Jun 11;56(7):5977–5977.
25. **Rossi EA**, Saito K, Granger CE, Nozato K, Yang Q, Kawakami T, Zhang J, Fischer W, Williams DR, Chung MM. Adaptive optics imaging of putative cone inner segments within geographic atrophy lesions. Invest Ophthalmol Vis Sci. 2015 Jun 11;56(7):4931–4931.
26. Granger C, Song H, Yang Q, Saito K, Nozato K, Williams DR, Chung MM, **Rossi EA**. Contiguous mapping of retinal pigment epithelium (RPE) cell morphometry across the horizontal meridian of the living human eye. Invest Ophthalmol Vis Sci. 2016; 57(12).
27. **Rossi EA,** Sharma R, Granger C, Schwarz C, Yang Q, Hunter JJ, Williams DR. Individual inner retinal neurons imaged in the living eye of monkey and human. IOVS. 2016; 57(12).
28. Granger C, Williams DR, **Rossi EA**. Near-infrared autofluorescence imaging reveals the retinal pigment epithelial mosaic in the living human eye. Invest Ophthalmol Vis Sci. 2017; 58:3429.
29. Song H, **Rossi EA**, Latchney L, & Chung MM. Autofluorescence of the photoreceptors in Stargardt disease (SD) identified using fluorescence adaptive optics scanning light ophthalmoscopy (FAOSLO). Invest Ophthalmol Vis Sci. 2018; 59:4635.
30. **Rossi EA**, Ferguson DR, Paques M, Sahel JA, & Grieve K. Infrared autofluorescence in adaptive optics ophthalmoscopy for imaging retinal pigment epithelial cells in health and disease. Acta Ophthalmologica 2018; 96(S261):2917. DOI: 10.1111/aos.13972_408.

5. PUBLISHED ABSTRACTS (in Scientific Journals) (cont.)

31. Kontos A, Leonard B, Snyder V, Holland C, Zhang M, Bensinger E, Sheehy C, Collins M, & **Rossi EA**. Changes in Fixational Eye Movements following Concussion. Medicine & Science in Sports & Exercise 2019; 51(6).
32. Vienola KV, Zhang M, Sahel J, & **Rossi EA.** Visualizing near-infrared autofluorescence from retinal pigment epithelial cells in AMD using multi-wavelength excitation. Invest Ophthalmol Vis Sci. 2019; 60:PB0183.
33. Leonard B, Zhang M, Snyder V, Holland C, Bensinger E, Sheehy CK, Collins M, Kontos A, & **Rossi EA**. Fixational Eye Movements Following Concussion. Invest Ophthalmol Vis Sci. 2019; 60:1035.
34. Suthaharan S, **Rossi EA**, Snyder V, Lejoyeaux, Chhablani J, Sahel JA, & Dansigani KK. Multimodal ophthalmic image registration using Hessian feature spaces. Invest Ophthalmol Vis Sci. 2020; 61(7):1149.
35. Gofas Salas E, Zhang M, Rui Y, Snyder V, Vienola KV, Suthaharan S, & **Rossi EA.** A refined detection scheme and image processing pipeline for multioffset adaptive optics scanning light ophthalmoscopy improves the contrast of retinal ganglion cell layer neurons in humans. Invest Ophthalmol Vis Sci. 2020; 61(7):205.
36. Eandi CM, Snyder V, Grieve K, Dansingani KK, Chhablani J, Eddy G, Eller AW, Martel J, Friberg TR, Chen W, Conley YP, Sahel JA, Paques M, & **Rossi EA.** High resolution structural phenotyping of intermediate and advanced non-neovascular age-related macular degeneration. Invest Ophthalmol Vis Sci. 2020; 61(7):210.
37. **Rossi EA**, Eandi CM, Snyder V, Grieve K, Dansingani KK, Arleo A, Chhablani J, Mrejen S, Martel J, Sahel JA, & Paques M. A new method for visualizing drusen and their progression in adaptive optics ophthalmoscopy. Invest Ophthalmol Vis Sci. 2020; 61(7):203.
38. Xing J, Walshe C, Zhang M, Rossi EA, & Sheehy CK. Retinal Task Detection and Image Perception using End-to-end Deep Neural Network (DNN) based Algorithms. Invest Ophthalmol Vis Sci. 2022; 63:735 – F0463.
39. Norberg N, **Rossi EA**, Grieve K, & Paques M. Enhanced visualization and progression tracking of gaze dependent features in adaptive optics ophthalmoscopy. Invest Ophthalmol Vis Sci. 2022; 63:4434 – F0113.
40. Errera MH, Satcho E, Snyder VC, Dansingani KK, Ahmad I, Thompson A, Kedia N, Chhablani J, Sahel JA, Paques M, & **Rossi EA**. Adaptive optics and multimodal imaging for inflammatory vitreoretinal interface abnormalities. Invest Ophthalmol Vis Sci. 2022; 63: 387 – F0425.
41. Rui Y, Lee DMW, Zhang M, Snyder VC, Gofas-Salas E, Mecê P, Raghuraman R, Yadav S, Tiruveedhula P, Grieve K, Errera MH, & **Rossi EA**. Imaging retinal microglial cell dynamics in healthy and diseased eyes in vivo with adaptive optics. Invest Ophthalmol Vis Sci. 2022; 63:388 – F0426.
42. Albrecht TJ, Mehmel BM, Eagle SR, Leonard BT, Marchetti GF, Zhang M, Reecher HM, Snyder V, Holland CL, **Rossi EA**, Collins MW, Kontos AP, Changes in Fixational Eye Movements (FEMs) Following Concussion. Archives of Clinical Neuropsychology 2022; 37(5):1042, DOI: 10.1093/arclin/acac32.01
43. Danielsen N, Snyder VC, Lee DMW, Borella Y, Zhang M & **Rossi EA**. Evaluating the autofluorescence of the hyper-reflective clumps associated with geographic atrophy in age-related macular degeneration (AMD) with adaptive optics scanning light ophthalmoscopy (AOSLO). Invest Ophthalmol Vis Sci. 2023; 64(8):1055.
44. Lee DMW, Zhang M, Snyder VC, & **Rossi EA**. Evaluating the multispectral autofluorescence (AF) of retinal pigmented epithelial cells in healthy eyes with fluorescence adaptive optics scanning light ophthalmoscopy. Invest Ophthalmol Vis Sci. 2023; 64(8):1056.

6. ABSTRACTS (not published in Scientific Journals)

1. **Rossi EA**, Roorda A. The limits of high contrast letter acuity with adaptive optics. Presentation, free paper session, 7th International Congress of Wavefront Sensing & Optimized Refractive Corrections, Paradise Island, Bahamas, January 29, 2006.
2. **Rossi EA**, Grieve K, Roorda A. Visual acuity and the cone photoreceptor mosaic. Presentation, free paper session, 8th International Congress of Wavefront Sensing & Optimized Refractive Corrections, Santa Fe, NM, February 23rd, 2007.
3. **Rossi EA**, Chung MM, Dubra A, Song H, Williams DR. Tracking disease progression in geographic atrophy with adaptive optics imaging. Engineering the Eye III, Benasque, Spain, June 10th, 2011.
4. Williams ZR, **Rossi EA**, DiLoreto DA. Adaptive optics imaging with histopathologic correlation in cancer-associated retinopathy. Poster presented at the 41st North American Neuro-Ophthalmology Society meeting in San Diego, California on February 24th, 2015.
5. Emami K, Sufrinko AM, Collins MW, Kontos AP, **Rossi, EA**. Examining the Relationship between Biopsychosocial History and Clinical Profiles Following Concussion. Poster presented at the 7th annual Sport Concussion Symposium and Meeting of the Sports Neuropsychology Society, Seattle, WA on May 3rd, 2019.
6. Albrecht TJ, Mehmel BM, Eagle SR, Leonard BT, Marchetti GF, Zhang M, Reecher HM, Bensinger ES, Snyder V, Holland CL, **Rossi EA**, Collins MW, Kontos AP (2022, April). Changes in Fixational Eye Movement (FEMs) Following Concussion. Poster presentation at the 10th Annual Sports Concussion Symposium and Meeting of the Sports Neuropsychological Society, Dallas, TX.
7. *Kontos AP, Albrecht T, Makwana Mehmel B, Trbovich AM, Eagle SR, Holland CL, Collins MW, Zhang M, **Rossi EA** (2023, June). Changes in fixational eye movements (FEMs) following sport-related concussion. Free communication/poster presentation at the American College of Sports Medicine Annual Meeting, Denver, CO. **Clinical Reception Best Clinical Abstract poster presentation at the American College of Sports Medicine Annual Meeting, Denver, CO.*

PROFESSIONAL ACTIVITIES

TEACHING

2005-2006 ***Graduate Student Instructor***
School of Optometry, University of California, Berkeley, CA
Graduate student instructor for: *Binocular Vision and Space Perception (VS219)* taught by Professor Martin S. Banks and *Oculomotor Functions and Neurology (VS217)* taught by Professor Clifton Schor. The students were ~60 first year optometry school students and the teaching consisted of running the laboratory activities for the course, grading homework, labs and exams, and holding weekly office hours.

2006 ***Co-instructor***
National Science Foundation Center for Adaptive Optics
University of California, Santa Cruz, CA
Co-instructor for the Mainland Internship Short Course, a week-long program of coursework that I co-designed to prepare ~16 undergraduate students for their summer research internships in the Center for Adaptive Optics.

TEACHING (cont.):

2007 ***Instructor***
National Science Foundation Center for Adaptive Optics
University of California, Santa Cruz, CA
The *AO summer school* is a week-long program for academics, engineers, and industry professionals that included ~50 students with diverse training and backgrounds. The program was designed to give them an introduction to adaptive optics and provide them with an overview of the applications of the technology as well as provide hands-on labs in AO.

2007 ***Lead Instructor***
National Science Foundation Center for Adaptive Optics
University of California, Santa Cruz, CA
Lead Instructor for the *Mainland Internship Short Course*, a week-long program of coursework I co-designed to prepare ~16 undergraduate students for their summer research internships in the Center for Adaptive Optics.

2008 ***Lead Instructor***
University of California, Santa Cruz, CA
Minority Access to Research Careers, Minority Biomedical Research Support, Initiative for Maximizing Student Diversity & California Louis Stokes Alliance for Minority Participation in Science, Engineering and Mathematics
Summer Research Institute
Lead Instructor for the *Biomedical Engineering Short Course*, part of a week-long program of coursework I co-developed that was designed to prepare ~20 undergraduate students from underrepresented minorities in science, technology and mathematics for their summer research projects in the Summer Research Institute.

2012 ***Lecturer***
Manhattan Eye, Ear & Throat Hospital, New York, NY
Greater New York Ophthalmology Clinical Lecture Series 2012-2013
Presented a comprehensive (three hour) lecture on the latest advances in retinal imaging and clinical applications of adaptive optics ophthalmoscopy. Students (~30) were medical doctors from the greater NY area ophthalmology residency programs.

2016-2018 ***Lecturer***
University of Pittsburgh School of Medicine, Pittsburgh, PA
Biology of Vision (INTBP2100)
Contributed a 1-hour lecture on retinal imaging, basic optics, and fundamentals of conventional and advanced ophthalmoscopy methods. Students (~12/year) were graduate students, postdocs and technicians from the department of ophthalmology.

2017-present ***Lecturer***
University of Pittsburgh School of Medicine, Pittsburgh, PA
Retinal Imaging Conference, Ophthalmology Residency Program
I present a 1-hour seminar each year on advanced ophthalmoscopy methods including basics of adaptive optics and applications for studying human disease. Students (~16/year) are medical doctors in the department of ophthalmology residency program.

TEACHING (cont.):

2019-present ***Co-Director***
University of Pittsburgh School of Medicine, Pittsburgh, PA
Biology of Vision (INTBP2100)
Along with two other co-directors, we plan, coordinate, and run this course. I manage one of three blocks of course lectures and contribute to the eight one-hour sessions focused on grant writing, where I present topics on grant writing and participate in grant reviews and presentation critiques. I also present a one-hour lecture on retinal imaging and run a one-hour hands-on imaging lab. Students (~6-12/year) are graduate students, postdocs, and technicians from the Department of Ophthalmology.

Mentoring:

Dates	**Name**	**Type**	**Institution**
2013-2014	Piero Rangel-Fonseca	Pre-doctoral	Centro de Investigaciones en Óptica
2014-2018	Charlie E. Granger	Pre-doctoral	University of Rochester
2016-2019	Kevin F. Keppel	Medical	University of Pittsburgh
2017-2018	Bianca Leonard	Undergraduate	University of Pittsburgh
2017-2019	Asad Durrani	Medical	University of Pittsburgh
2017-2019	Kari Vienola	Post-doctoral	University of Pittsburgh
2018-2019	Oday Abushaban	High school	University of Pittsburgh
2018-2019	Ahmer Shaikh	High school	University of Pittsburgh
2018-2020	Grace Eddy	Undergraduate	University of Pittsburgh
2019	Bharadwaj Chirravuri	Undergraduate	University of Pittsburgh
2019	Emory Verstraete	Undergraduate	University of Pittsburgh
2019-2021	Hope Reecher	Undergraduate	University of Pittsburgh
2019-2020	Raphael Lejoyeax	Post-doctoral (Intern)	Centre National Hospitalier Ophthalmologiques des 15-20
2019-2020	Elena Gofas-Salas	Post-doctoral	University of Pittsburgh
2019-present	Daniel Lee	Pre-doctoral	University of Pittsburgh
2019-2023	Yuhua Rui	Pre-doctoral (Visiting Scholar)	Central South University Xiangya School of Medicine
2020	Iman Ahmad	Undergraduate	University of Pittsburgh
2020	Adam Thompson	Undergraduate	University of Pittsburgh
2020	Tyler Hart	High School	University of Pittsburgh
2020	Jason Vasko	High School	University of Pittsburgh
2020-2021	Laura Le	Medical	University of Pittsburgh
2020	Nikita Kedia	Medical (PSTP)	University of Pittsburgh
2020	Yu-Hsuan Chao	Undergraduate	University of Pittsburgh
2020-2022	Emmanuelle Satcho	Undergraduate	University of Pittsburgh
2021-2023	Rashmi Raghuraman	Undergraduate	University of Pittsburgh
2021-2023	Natalie Danielsen	Undergraduate	University of Pittsburgh
2021-2022	Ryan Williamson	Medical	University of Pittsburgh

Mentoring:

2021	Terrence Ahlin	Medical (Fight for Sight Summer Fellowship)	University of Pittsburgh
2022	Étienne Boulanger	Medical (BME Masters)	Université de Paris
2022-present	Ysé Borella	Medical (MD-PhD)	Sorbonne Université
2023-present	Robert Draham	Post-doctoral	University of Pittsburgh
2023-present	Olivier Martinache	Visiting Scholar	Sorbonne Université
2023-present	Evelyn Markle	Undergraduate	University of Pittsburgh
2023-present	Cameran Thompson	Undergraduate	University of Pittsburgh
2023-present	Clémentine Callet	Pre-doctoral	Sorbonne Université
2024-present	Tynan Aherne	Undergraduate	University of Pittsburgh
2024-present	Rachel Eskander	Undergraduate	University of Pittsburgh

---

RESEARCH

Current Grant Support:

Grant Number	Grant Title	Role	Years	Source	Amount
PPA-0819-0772-INSERM	Next generation optogenetics for vision restoration	co-PI (10%)	2019-2024	Foundation Fighting Blindness	Subaward Total: $361,972 Direct: $361,972 Indirect: $0
5P30EY008098	Core Grant for Vision Research	Module Director (5% cost-shared)	2019-2024	National Eye Institute (NIH)	Module Total: $103,085 Direct: $65,869 Indirect: $37,216
R01EY030517	Distinguishing normal aging from AMD at the level of single cells in the living human retina	PI (40%)	2020-2025	National Eye Institute (NIH)	Total: $2,417,132 Direct: $1,591,255 Indirect: $825,877
n/a	Interplay between RPE, Bruch's membrane and choriocapillaris in AMD progression: Towards generation of a customized assembloid *in vitro* model	co-I (5%)	2022-2023	Henry L. Hillman Foundation / Eye & Ear Foundation of Pittsburgh	Total: $150,000 Subaward Total: $15,139 Direct: $15,139 Indirect: $0
R44NS095090	Retinal eye-tracking as a prognostic tool for traumatic brain injury and concussion	co-PI (10%)	2022-2024	National Institute of Neurological Disorders and Stroke (NIH)	Subaward Total: $285,493 Direct: $179,556 Indirect: $105,938

Prior Grant Support:

Grant Number	Grant Title	Role	Years	Source	Amount
FS-PD-11-020	Tracking disease progression in AMD	PI	2011-2012	Fight for Sight	Direct: $25,000 Indirect: $0
F32EY021669	Tracking rods, cones and RPE cells in geographic atrophy	PI (100%)	2011-2012	National Eye Institute (NIH)	Direct: $48,498 Indirect: $0
n/a	High-resolution structural phenotyping of intermediate and advanced AMD	co-I (10%)	2017-2019	Edward N. & Della L. Thome Memorial Foundation	Subaward Total: $233,691 Indirect: $0
n/a	Tracking concussion recovery by monitoring fixational eye motion with tracking scanning laser ophthalmoscopy	PI (1% cost-shared)	2017-2019	C. Light Technologies, Inc.	Direct: $16,500 Indirect: $0
G2017082	In vivo imaging of retinal ganglion cells in glaucoma	PI (10%)	2017-2019	BrightFocus Foundation	Total: $150,000 Direct: $150,000 Indirect: $0
I0020952	CTSI: WORDOUT: Community Research Dissemination Challenge Pilot Project	PI (2% cost-shared)	2019-2020	University of Pittsburgh Clinical & Translational Sciences Institute	Total: $6500 Direct: $6,500 Indirect: $0

Other research related activities:

Patents granted

1. Yang Q & **Rossi EA (co-inventor).** METHOD OF IMAGING MULTIPLE RETINAL STRUCTURES. United States Patent No.: US 10,092,181. Date: Oct. 9, 2018.
2. **Rossi EA (sole inventor).** APPARATUS AND METHOD FOR AUTOMATIC POSITION CONTROL IN AN OPTICAL SYSTEM AND APPLICATIONS. United States Patent No.: US 10,123,697. Date: Nov. 13, 2018.
3. **Rossi EA** & Yang Q **(co-inventor)**. SYSTEM AND METHOD FOR REAL-TIME MONTAGING FROM LIVE MOVING RETINA. United States Patent No.: 10,226,173. Date: Mar. 12, 2019.
4. **Rossi EA (sole inventor).** METHOD FOR IMAGING RETINAL STRUCTURES. United States Patent No.: 10,772,496. Date: Sept. 15, 2020.

Software

1. Zhang M & **Rossi EA.** (2022) Retinal Eye Motion Measurement and Image Distortion Elimination (REMMIDE) © 2022, University of Pittsburgh, Pittsburgh, PA. http://www.rossilab.org/software.html
2. **Rossi EA** & Hunter JJ. (2018) Rochester Exposure Limit Calculator © 2014–2018, University of Rochester, Rochester, NY.

Other research related activities (cont.):
Ad-hoc Reviewer for the following Journals:

- *American Journal of Ophthalmology*
- *Annals of Translational Medicine*
- *Biomedical Optics Express*
- *Communications Biology*
- *EBioMedicine*
- *Experimental Eye Research*
- *Frontiers in Ophthalmology*
- *Investigative Ophthalmology and Visual Science*
- *Journal of Biomedical Optics*
- *Journal of the Optical Society of America A*
- *Journal of Vision*
- *Ophthalmic & Physiological Optics*
- *Ophthalmology Science*
- *Optics Express*
- *Optics Letters*
- *Optometry & Vision Science*
- *PLoS ONE*
- *Scientific Reports*
- *Seminars in Ophthalmology*
- *Translational Vision Science & Technology*
- *Vision*
- *Vision Research*

Grant Reviewing

- Scientific Review Committee, US Army Medical Research and Development Command. Congressionally Directed Medical Research Programs, Fort Detrick, MD (2020)
- Grant Reviewer, Moorfields Eye Charity. London, UK (2020)
- Grant Reviewer, Fighting Blindness Ireland. Dublin, Ireland (2020)
- Scientific Review Committee Member, Fight for Sight. New York, NY (2020-2023)
- Scientific Reviewer, National Science Centre Poland. Kraków, Poland (2021)
- Peer Reviewer, Foundation Fighting Blindness. Columbia, MD (2022)
- Peer Reviewer, Sight Research UK. Bristol, UK (2022)

LIST of CURRENT RESEARCH INTERESTS: Ophthalmic imaging, autofluorescence, adaptive optics, optical imaging, retina, eye movements, spatial vision, image processing, photoreceptors, retinal pigment epithelium, retinal ganglion cells, retinal degenerations, inherited retinal dystrophies, age-related macular degeneration, glaucoma, concussion, and mild traumatic brain injury

INVITED SEMINARS AND LECTURESHIPS

Local Presentations

1. August 26th, 2016. Advanced adaptive optics methods for studying the retina on a microscopic scale in the living eye. *University of Pittsburgh Medical School Department of Ophthalmology Grand Rounds*, Pittsburgh, PA
2. March 5th, 2018. Imaging retinal disease at the level of single cells. *McGowan Institute for Regenerative Medicine Annual Retreat*, Pittsburgh, PA.
3. October 19th, 2018. Seeing Single Cells in the Living Human Eye. *Science 2018*, University of Pittsburgh, Pittsburgh, PA
4. October 25th, 2018. Imaging retinal diseases at the level of single cells in the living human eye. *Brain Day 2018 Keynote Panel*, University of Pittsburgh, Pittsburgh, PA
5. December 12th, 2018. Are fixational eye movements altered following concussion? *UPMC Concussion Program Grand Rounds*, University of Pittsburgh, Pittsburgh, PA
6. May 13th, 2020. New Horizons in Glaucoma Research. *Sight & Sound Bites Webinar*, Eye & Ear Foundation of Pittsburgh, Pittsburgh, PA
7. November 19th, 2021. Imaging for Retinal Diseases. *Sight & Sound Bites Webinar*, Eye & Ear Foundation of Pittsburgh, Pittsburgh, PA

INVITED SEMINARS AND LECTURESHIPS (cont.)

Local Presentations (cont.)

8. November 9th, 2023. Evaluating oculomotor dysfunction following concussion with high resolution eye tracking. *UPMC Concussion Program Grand Rounds*, University of Pittsburgh, Pittsburgh, PA

Regional Presentations

1. March 11th, 2011. The limits of visual resolution. *Schnurmacher Institute for Vision Research Colloquium Series*, State University of New York College of Optometry, New York, NY
2. May 10, 2022. The Ophthalmology Digital Twin Eye Project. *AI/ML in Healthcare Symposium,* University of Pittsburgh Center for Military Medicine, Pittsburgh, PA

National Presentations

1. May 4th, 2009. Exploring the limits to vision with AOSLO. *Visual Performance with Adaptive Optics Correction Minisymposium*, ARVO Annual Meeting, Ft. Lauderdale, FL
2. May 23rd, 2013. Adaptive optics imaging of retinal disease: focus on AMD. *Ophthalmic Laser Surgical Society Meeting*, New York, NY
3. December 11th, 2013. High-resolution retinal imaging with adaptive optics: clinical applications and new technologies for the study of visual function. *Information Science and Technology Seminar Series*, Los Alamos National Laboratory, Los Alamos, NM
4. February 20th, 2015. Adaptive optics imaging of retinal disease. *Emory Eye Center Seminar Series*, Emory University, Atlanta, GA
5. May 22nd, 2015. Studying retinal disease on a microscopic scale in the living human eye. *Vision Research Special Seminar Series*, Baylor College of Medicine, Houston, TX
6. June 10th, 2015. Studying AMD on a microscopic scale in the living eye. Novartis Institute for Biomedical Research, Cambridge, MA
7. December 16th, 2015. Beyond counting cones: advanced adaptive optics imaging methods for studying the retina on a microscopic scale in the living eye. Case Western Reserve University, Cleveland, OH
8. May 8th, 2017. Imaging individual retinal ganglion cell layer neurons in the living eye. Application of adaptive optics for retinal imaging and visual function testing minisymposium, ARVO Annual Meeting, Baltimore, MD
9. July 11th, 2017. Imaging retinal ganglion cells in the living eye. Louis J. Fox Center for Vision Restoration, *Vision Restoration: Regenerative Medicine In Ophthalmology*, Washington, D.C.
10. May 16th, 2018. Imaging Single Cells in the Living Eye from the Retinal Pigment Epithelium to the Ganglion Cell Layer. Conference on Lasers and Electro-Optics (CLEO), Symposium on New Advances in Adaptive Optics Retinal Imaging I (JW3P), San Jose, CA
11. February 7th, 2020. High resolution autofluorescence imaging of the living human retina in health and disease. Irvine 2020 Retinal Imaging Colloquium. University of California, Irvine School of Medicine, Irvine, CA
12. March 9th, 2023. The cellular mosaics of the retina in health and disease. University of Pittsburgh's 17th Annual Vanscoy Winter Academy, Naples, FL
13. November 8th, 2023. Imaging single cells as retinal biomarkers. Association for Researchers in Vision and Ophthalmology (ARVO) Biomarkers in Ophthalmology Virtual Conference

International Presentations

1. July 29th, 2010. Factors influencing visual resolution in myopia after adaptive optics correction of high order aberrations, *13th International Myopia Conference*, Tübingen, Germany Proceedings published in: *Optometry and Vision Science, 88*(3), 2011.
2. September 10th, 2015. Advanced adaptive optics methods for imaging the retina on a microscopic scale in the living eye. *L'Institut de la Vision*, Paris, France

INVITED SEMINARS AND LECTURESHIPS (cont.)

International Presentations (cont.)

3. February 28th, 2017. Update on advanced high resolution in vivo methods for studying retinal disease in the living eye: new techniques and new challenges. *Quinze-Vingts National Ophthalmology Hospital*, Paris, France
4. Fluorescence adaptive optics ophthalmoscopy. PARIS Group Seminar Series, Quinze-Vingts National Ophthalmology Hospital, Paris, France, March 22nd, 2018.
5. October 5th, 2018. Infrared autofluorescence in adaptive optics ophthalmoscopy for imaging retinal pigmented epithelial cells in health and disease. European Association for Vision and Eye Research 2018 Congress, Nice, France
6. October 8th, 2018. Adaptive optics imaging of retinal pigmented epithelial cells and retinal ganglion cell layer neurons in the living eye. *First Autumn Course on Adaptive Optics Retinal Imaging*, Langevin Institute, Paris, France
7. September 4th, 2019. Adaptive optics imaging of retinal pigmented epithelial cells and retinal ganglion cell layer neurons in the living eye. *Second Course on Adaptive Optics Retinal Imaging*, Langevin Institute, Paris, France,
8. October 13th, 2020. Multimodal high-resolution imaging of AMD. *i2Eye2020, i2Eye2020: Third Annual International Conference on Innovative Imaging of Eye Disease*, E-meeting
9. October 7th, 2022. Label-free imaging of inflammation at the level of single cells in the living eye. *i2Eye 2022: Fifth Annual International Conference on Innovative Imaging of Eye Disease.* Delivered remotely, Paris, France.
10. November 26, 2022. Revealing inner retinal neurons and immune cells in the living human eye with adaptive optics ophthalmoscopy. *4th Xiangya International Forum of Ophthalmology*. Delivered remotely, Changsha, Hunan, China.
11. February 21, 2023. Imaging inflammation in the living human eye with adaptive optics scanning light ophthalmoscopy. *2023 International Society of Eye Researchers Biennial Meeting*, Gold Coast, Queensland, Australia.
12. July 16, 2023. Multi-modal adaptive optics ophthalmoscopy for the study of retinal disease. *International Symposium on Adaptive Optics Imaging in Ophthalmology*, Nanjing, China.
13. October 17, 2023. Imaging inflammation at the level of single cells in the living human eye. *IHU FOReSIGHT Meeting*, Paris, France.

SERVICE

1. **University and Medical School.**

University of Pittsburgh, School of Medicine, Department of Ophthalmology, Pittsburgh, PA

- Member, Joel Smalley Travel Award Selection Committee (2017-present)
- Mentor, Health Sciences Research Training Program (2018-2020)
- Mentor, Xiangya Scholars Training Program (2019-2022)
- Module Director, Fabrication Core, Departmental NIH P30 Core Grant (2021-present)
- Steering Committee, Departmental NIH Training Grant (2023-present)

University of Pittsburgh, Swanson School of Engineering, Pittsburgh, PA

- Poster Judge, Pitt Bioengineering Day (April 6th, 2017)
- Poster Judge & Table Host, 13th Annual Data and Dine Symposium of the University of Pittsburgh Postdoctoral Association (May 9th, 2018)
- Poster Judge, 14th Annual Data and Dine Symposium (May 16, 2019)
- Applicant Screener, Physician Scientist Training Program (2020, 2021, 2022)
- Bioengineering Prelims Committee, Primary Reviewer for Qi Tian (June 1, 2023)

SERVICE (cont.)

1. **University and Medical School (cont.)**

University of Pittsburgh, McGowan Institute for Regenerative Medicine, Pittsburgh, PA

- Poster Judge, McGowan Institute Science Retreat (March 5th, 2018)

Sorbonne Université, Doctoral School ED 394, Paris, France

- Jury Member, PhD Dissertation Defense, Elena Gofas-Salas (January 8th, 2019)

Université Paris-Saclay, Paris, France

- Jury Member, PhD Dissertation Defense, Léa Krafft (October 20th, 2022)

University of Rochester, Center for Visual Science, Rochester, NY

- Scientific Review Officer for Human Subjects Research (2012-2016)

University of California, Berkeley, Berkeley, CA

- Class Representative, Vision Science Graduate Group (2004-2009)
- Student Member, Vision Science Program Admissions Committee (2006)

2. Community Activities.

Member

- Audubon Society of Western Pennsylvania (2017-present)
- Weigand Fellowship Review Committee, Eye & Ear Foundation of Pittsburgh (2018)
- Scientific Advisory Board, French Retinal Clinical Research network (FRCRnet), a division of the French Clinical Research Infrastructure Network (F-CRIN) (2023-present)

Attendee

- Beckman Initiative for Macular Research Conference (2015)
- Ryan Initiative for Macular Research Conference (2018)

Co-organizer

- University of California Center for Adaptive Optics Fall Science Retreat (2017)
- i2Eye: International Conference on Innovative Imaging of Eye Disease (2020-2022,2024)
- Session co-organizer, "Applications and advances in adaptive optics imaging", ISER Annual Meeting, Gold Coast, Australia (2023)

Moderator

- ARVO Annual Meeting (2015-2017, 2023)
- ARVO Imaging in the Eye Meeting (2019)

Volunteer

- Instructor, National Science Foundation Center for Adaptive Optics (2006-2007)
- Instructor, UC Santa Cruz Summer Research Institute (2008)
- Medical co-chair, Foundation Fighting Blindness VisionWalk. Pittsburgh, PA (2019; 2021-2023)

Consultant

- Dimension Technologies Inc., Rochester, NY (2015)